Ann. Zool. Ecol. anim., 1977, **9.**

Contents of year 1977

Françoise BEAUVAIS, G. BIWER, P. J. CHARMILLOT. — Tests of sex traping of *Grapholitha janthinana* Dup. with a mixture of Z-8 dodecenyl acetate containing 28 p. 100 of its isomer E 457

Y. BOUCHERY. — *Aphis fabae* Scop. (Homoptere *Aphididae*) in Alsace. Populations fluctuations on spring horse bean according to the environmental factors (temperature, rain, natural enemies, host plant) 63

Y. BOUCHERY. — The aphids *Aphis fabae* Scop. and *Acyrthosiphon pisum* Harris (Homoptera, *Aphididae*), pests of *Vicia faba* L. in the north-eastern France : action on the yield, nature of damage 99

M. BOUNIAS, G. BONNOT. — Ascorbic acid in the nutrition of *Chilo suppressalis* WLK. (*Lepid., Pyralidae, Crambinae*) 731

R. BOURNOVILLE. — Study of some relationships between the plant (species, variety, phenological stage) and the pea aphid *Acyrthosiphon pisum* Harris (*Homoptera, Aphididae*) 87

E. BRUNEL, J. P. CANCELA DA FONSECA. — Utilization of the time series in the study of the life cycle and the fluctuation of populations of the *Psila rosae* (Carrot fly) 515

E. BRUNEL, J. M. RABASSE. — *Cavariella aegopodii* Scop (Hom. *Aphididae*) on carrots in western France. I. — Annual evolution of the populations 469

A. CAUDWELL, J. LARRUE. — The production of healthy and infectious leafhoppers for infectivity tests of yellow diseases of plants associated with mollicutes. Breeding of *Euscelidius variegatus* KBM and egg laying in polyurethane foam 443

P. J. CHARLES, A. ROQUES. — Notes on the biology of *Dioryctria mutatella* Fuchs (*Lepidoptera, Phycitidae*), an enemy of shoots and cones of scotch pine in Fontainebleau forest 117

J. L. CHASSE, J. M. LEGAY, A. PAVE. — Volterra-Kostitzin model. Fitting and interpretation of parametres. Biological examples 543

R. CHAUVIN. — An apparatus for air temperature integration 351

Madeleine COULON. — Towards the definition of a program of larval development 649

D. DEBOUZIE. — Effect of initial population size on *Ceratitis*, (*Diptera, Trypetidae*) productivity under limited food conditions 367

C. GAGNEPAIN. — Action of the host-plant on mating and ovary maturation of *Oscinella pusilla* Meig. 383

B. DELOBEL. — The ponderal evolution of the parasite *Phryxe caudata* (*Diptera Tachinidae*) during pupation and during the intrapupa life after an experimental shorting of the feeding period 876

C. DENIS, J. LE LANNIC. — Vitellogenesis modalities in *Trichoptera* 627

G. FABRES. — Complementary intervention of an entomogenous fungus and an hymenopterous parasite for the control of *Lepidosaphes beckii* (Hom. *Diaspididae*) in New-Caledonian shadow habitats 601

A. FERRAN, MM. LARROQUE. — Study of the host predator relationships : absorption and utilisation of an aphis, *Myzus persicae* Sulz. by the different larval instars of the Coccinella *Semiadalia undecimnotata* Schn. (Col. *Coccinellidae*) 661

A. FERRAN, M. M. LARROQUE. — How to estimate the predatory effect of the larvae of the Aphidophagous *Coccinella Semiadalhia 11 Notata* Schn. (Col. *Coccinellidae*) by knowing the evolution of their weight 691

J. FOURCHE, C. GUILLET, B. CALVEZ, G. BOSQUET. — The energetic metabolism of the pupae of *Pieris brassicae* (*Lepidoptera*) during metamorphosis and diapause. Attempt to establish a balance 51

L. GAUMONT. — The economic importance of Aphids 173

M. HALLAIRE. — The signification of measurement 353

G. E. HANIOTAKIS, P. CATSOULACOS. — A new chemosterilant for *Dacus oleae* (Gmelin) 149

G. E. HANIOTAKIS. — Male olive fly attraction to virgin females in the field 273

G. E. HANIOTAKIS, N. AVTZIS. — Mortality in *Dacus oleae* (Gmelin) through infection with *Pseudomonas putida* 299

J. R. LE BERRE, C. ROUSSILHON, Ginette LAUGE. — Feeding activity of a strain of *Locusta migratoria* reared under varied conditions 615

J. C. MALAUSA. — Ecophysiological study of imaginal diapause in *Chaetocarabus intricatus* L. (*Coleoptera Carabidae*) 111

J. C. MALAUSA. — The rearing of *Carabidae* : outlook on mass rearing 213

A. G. MANOUKAS. — Biological characteristics of *Dacus oleae* larvae (*Diptera, Tephritidae*) reared in a basal diet with variable levels of ingredients 141

A. G. MANOUKAS, B. MAZOMENOS. — Effect of antimicrobials upon eggs and larvae of *Dacus oleae* (*Diptera. Tephritidae*) and the use of propionates for larval diet preservation 277

J.-G. POINTEL. — Study of the external genital organ of the *Trichogramma's* males with a scanning electronic microscope 319

S. POITOUT, R. BUES. — The development of *Mamestra oleracea* (*Noctuidae, Hadeninae*) : Characteristics depending from larval rearing conditions (temperature, lighting time). Evidence of a summer type diapause in the Rhone's low valley population 211

S. POITOUT, R. BUES. — Comparative study of the nymphal summer diapauses existing in the Rhone's low valley populations of two *Noctuidae Hadeninae* (*Mamestra brassicae* L., *Mamestra oleracea* L.) 225

S. POITOUT, R. BUES. — Some genetical aspects of the heterogeneity in the summer diapause manifestation among the european populations of two Lepidoptera *Noctuidae Hadeninae* (*Mamestra oleraceae* L. and *Mamestra brassicae* L.) 235

J. M. RABASSE, Y. BOUCHERY. — New data on the evaluation methods of the Aphididae populations : extraction techniques of aphids from plant and counting techniques 407

J. M. RABASSE, E. BRUNEL. — *Cavariella aegopodii* Scop (Hom. *Aphididae*) on carrots in Western France. II. Natural control by parasites (Hym. *Aphidiidae*) and fungi (*Entomophthora* Spp.) ... 481

R. RAHN. — Variation of the time of sexual activity of *A. assectella* during the night in relation with temperature 1

P. RAMOS, M. CAMPOS, J. M. RAMOS. — Bio-ecology of the development stages of *Prays oleae* Bern., in Granada (Spain) (*Lepidoptera, Plutellidae*) 155

H. L. RAYMOND. — The seasonal evolution of adult gad-fly groups in the Department Hautes-Alpes (France) 537

J. RIOM, B. GERBINOT. — Biological and ecological study of *Matsucoccus feytaudi*, Ducasse, 1942 (*Coccoidea, Margarodidae, Xylococcinae*) in the south-east of France. General biology and phenology 11

J. RIOM, J. P. FABRE. — Behaviour of *Matsucoccus feytaudi* Duc 181

J. RIOM. — Structure of *M. feytaudi* populations 707

J. L. RIVIERE. — Effect of propoxur on the reproduction of *Blattella germanica* L. 111

R. RIVOAL. — Identification of biological races of *Heterodera avenae* Woll. in France 261

J. M. RUDRAUF. — Acoustic and sexual behaviour of *Glossina fuscipes fuscipes* Newstead 1910 111

P. SAGLIO, C. DESCOINS, Martine GALLOIS, Martine LETTERE, D. JAOUEN and Jacqueline MERCIER : Study of the sex pheromone of *Eupoecilia* (*Clysia*) *ambiguella* Hb. *Lepidoptera Tortricoidea, Cochylidae* 444

B. SIGWALT, S. MICHELAKIS, V. ALEXANDRAKIS. — Over-wintering of *Dacus oleae* Gmel. in pupal stage 287

M. STENGEL, J. VOEGELE, J. W. LEWIS. — *Trichogramma*, V. b. Winter survival of *Trichogramma evanescens* Westw. moldavian strain and discovery of T. *cacoeciae* Mar. on egg layings of *Ostrinia nubilalis* Hübn. under the agro-climatic conditions of Alsace 313

G. STREBLER. — The regulation of Lucerne flower midge (*Contarinia medicaginis* Kieffer) population under overcrowding 343

J. A. TSITSIPIS. — Effect of constant temperatures on the eggs of the olive fruit fly, *Dacus oleae* (*Diptera, Tephritidae*) 133

General assembly of the I.N.R.A. Zoologists on the « Variability of populations ». La Grande Motte, October 7-8, 1976 563

Necrology 357

Books review 365